UNION CARBIDE

—Y-12 BULLETIN

A Newspaper For Y-12 Employees of Union Carbide Corporation—Nuclear Division

VOL. 20 — NO. 26 | OAK RIDGE, TENNESSEE | Wednesday, June 29, 1966

6-13067

'Pencil Pushing' Can Hold Many Occupational Hazards

"Pencil pushing" some folks call it. "Paper shuffling" is another name often given to the so-called "white collar" profession. Few people associate occupational safety with office workers, but the fact is that almost three-quarters of a million working days are lost annually because of office accidents.

According to statistics compiled by the National Safety Council, more than 90 percent of accidental injuries involve both an unsafe condition and an unsafe act. This information should serve as a warning to each office employee to assume responsibility for his own safety. The place to start is in eliminating unsafe acts.

A list of personal safety precautions might include the following:

1. If you smoke, use an ashtray; don't throw matches or hot ashes in the wastebasket.

2. If a fire breaks out in your wastebasket, report it and place another one inside it immediately; this will smother the flames until you can get an extinguisher.

3. Don't smoke while you are using a flammable compound such as a typewriter cleaning fluid.

4. Open doors slowly to avoid hitting anyone approaching from the other side.

5. Don't stand in front of closed doors.

6. If you spill coffee or other liquids on the floor, wipe them up immediately.

7. Use the handrail when you go up or down stairs; don't carry materials so heavy or bulky that you do not have your hands free.

8. Don't run in the office.

9. Watch where you're going.

10. Don't yank at file-cabinet drawers. If it's difficult to open them, ask the maintenance people to repair them.

11. Never stand on the open drawer of a desk or file cabinet.

12. Never stand on chairs to reach something on a high shelf.

13. Don't have more than one file drawer open at a time.

14. Don't leave drawers of a desk or file cabinet standing open.

15. To remove staples, use a staple remover only.

16. Keep razor blades and other sharp equipment in a closed container so that you won't be cut while reaching into a drawer.

17. Keep your drawers neat so you won't be stabbed by a pair of scissors hiding under a pile of papers.

18. When handling large stacks of paper, use rubber finger guards to eliminate the hazard of paper cuts.

19. When a maintenance man is working in your area, move out of his way.

If employees conscientiously obeyed these precautions, the majority of office accidents wouldn't happen.

How many 'do's and don't's' could you add to the above list?

Badge Exchange Began Yesterday

The quarterly badge exchange began yesterday in Y-12, as new blue-bordered means of identification went into the racks.

The new badges will remain in the self-service racks at the portals through 11 p.m., Wednesday July 13. Due to the Independence Day holiday, and the prevalence of vacations this time of year, they remain there a little longer than usual.

By obtaining the new badges at the portals, employees save themselves a trip to Building 9704-2. If you do not pick up your badge before July 13 . . . that's exactly what you will have to do.

Let's all be good little boys, however, and pick up our badges early.

Some Folks 'Attract' Mosquitoes More So

Some folks are more attractive to mosquitoes than others, recent findings show. The use of cologne or after-shave lotion also tends to attract the pesky biters.

Union Carbide's "6-12" tends to keep them away. On that next camping trip, make sure the old "6-12" is along . . . then you can kiss the mosquitoes, chiggers, gnats and flies goodbye.

Can You Spot The Hazards?

ADMINISTRATORS OF THE COOPERATIVE program to update the training of vocational and technical teachers and to widen the scope of students planning to enter the professional field are seen conferring above. From left, are R. F. Hibbs, Y-12 Plant Superintendent; H. G. P. Snyder, superintendent Industrial Relations; J. Leo Waters, administrator of the project; B. R. Pearson and F. C. Lowry.

Siren Tests Set For Sunday Morn

Regularly scheduled siren tests will take place at 9 a.m. Sunday, July 3, in Y-12.

The Disaster Alarm System is regularly activated every three months. To be tested will be the air attack sirens located at Buildings 9201-3, 9996, 9204-4 and 9213. The tests will cover the "Evacuation" and "Take Cover" signals, with three minutes for each signal.

Employees who are working Sunday will not leave their work stations. Prior to the test, an announcement will be made to plant personnel over the public address system.

New MIT Practice School Is Planned

A practice school for advanced chemical engineering students has been established in Oak Ridge by the Massachusetts Institute of Technology to utilize nuclear facilities of the Atomic Energy Commission. The school will be operated at Oak Ridge National Laboratory, and will support 36 graduate students each year.

A similar school, also sponsored by MIT, was operated at Oak Ridge Gaseous Diffusion Plant from 1948 to 1962.

COME, BRING A FRIEND

It seems there's no end to Churchillian wit. George Bernard Shaw once invited Sir Winston to a play . . . with two tickets and a wire that stated: "Come, bring a friend . . . if you have one."

The English Lion returned the tickets, expressing his regrets, saying: "I will attend the second performance . . . if there is a second performance."

Monday, July 4th Is Official Holiday

Next Monday, July 4, is an official holiday for Y-12. No employee is required to work except those whose presence is required for the protection and continuous operation of the plant.

It was 190 years ago that our country declared its independence . . . and declared for all times that men are and ought to be free, that born under God, they have certain rights and freedoms just by being born. An ever new concept among men, the idea was not perfect, as none are . . . but it's the nearest thing to perfection devised yet.

Northwestern's Seth Leads Physics Seminar

K. K. Seth, Northwestern University, will conduct this week's Physics Division seminar. His subject will be "Some Experiments Relating to Doorway States."

The seminar is set for Friday, July 1, at 3:15 p.m., in the East Auditorium of ORNL's 4500 building.

SAFETY SCOREBOARD

The Y-12 Plant Has Operated

23 Days Or 564,000 Man-Hours Through June 26

Without A Disabling Injury

Phone 3-7755

(Unofficial Estimate) For Daily Report On Accident-Free Hours

Know The Atom Booklets Available

Two new educational booklets in the Atomic Energy Commission's "Understanding the Atom" series are now available to the general public.

The new volumes, which bring the total in the education series to 29, are "Plowshare" and "Atom, Nature and Man." The booklets are printed in Oak Ridge at the AEC's Division of Technical Information Extension.

"Plowshare" describes the nuclear explosion phenomena, and the various ways nuclear explosives may be used constructively and safely. It also gives an account of experience and information collected, examples of experiments that have been conducted, and proposed applications of nuclear explosives.

"Atoms, Nature and Man" tells of the results of man's release of radioactivity into natural plant and animal communities, and gives many examples of biological and ecological research conducted in areas subjected to radioactive materials. It also lists numerous projects where radiobiological research is under way and mentions some of the contributions which artificial radioisotopes are making to advance scientific knowledge.

Like others in the series, single copies of the booklets may be obtained free by writing the AEC, P.O. Box 62, Oak Ridge.

GOOD TO LAST DROP

Lady Astor: "If you were my husband, I would put poison in your coffee."

Winston Churchill: "Madame, if you were my wife, I'd drink it, too."

The Bulletin

Published Weekly For The
Y-12 Employees Of
UNION CARBIDE
CORPORATION

UNION CARBIDE

NUCLEAR DIVISION

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American Association Industrial Editors

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Katy Kutkost SEZ:

It's never TOO late.

Fortunately, the typist is an accommodating, understanding lady who doesn't object too strenuously about squeezing in last minute green sheets after June 30th's deadline.

As of the moment we are a few hundred shy from a good score. We trust and hope the Last Minute Louise and Home Stretch Harrys will come through strong.

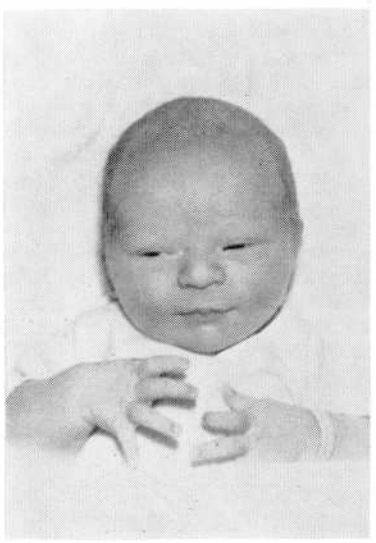
Green sheet tally as of June 23:

Division	Received	Goal
Accounting	1	6
Assembly	28	35
Development	31	79
Engineering	18	120
Fabrication	37	37
Industrial Relations	11	10
Maintenance	252	210
Metal Preparation	15	36
PSS & Utilities	4	16
Technical	59	92
Total	**456**	**691**

If your arm is tired, don't write —phone 'em in . . . 3-5491. If no one answers, wait for tape recorder dial tone and start talking.

BRISK BUSINESS

A farmer, paying his first visit to the coast, asked a boatman if he could buy some salt water to take home to show his wife. The boatman assented and charged the farmer a quarter. A few hours later the visitor returned to the seashore and saw the boatman. By this time the tide had gone out. "By crack, I'll say this for you, mister, you sure do a fine business," the farmer exclaimed.



MARVIN and Carolyn Kosier are happy about their new arrival, Michael Shane Kosier, on May 18. Kosier is in Y-12's M-Wing Shop.

IF YOU WROTE A LETTER TODAY, or drove a car, or ate a sandwich, chances are that you enjoyed some of the "invisible" benefits of nuclear energy. According to the Atomic Industrial Forum, the use of isotopes and radiation could increase as much as 400 to 500 per cent per year, with radioisotopes working more and better miracles for man than ever before.

Busy Radioisotopes Are Invisible Servants...More Uses Predicted!

If you wrote a letter today . . . or drove a car . . . or ate a sandwich . . . chances are that you enjoyed some of the "invisible" benefits of nuclear energy.

Radiation has given automation and our space program a big boost. Radiation has saved countless lives in medical diagnosis and treatment; and in agriculture it has made possible healthier crops and better livestock. Yet this revolution in everyday life during the past 20 years has been a relatively quiet one. One reason is that the wonders of radiation are easier to take for granted than to explain.

How would you explain "heat"? After all, the energy radiating from isotopes is just about as basic. Incidentally, the parallel is a good one. Like heat, radiation is an amazingly versatile tool—and no more dangerous when handled properly.

Early Radiation Uses

Radioactivity is found on earth in a few natural elements such as uranium and radium, and people have used radiation for over half a century. The penetrating rays of radium, for instance, have long been used by doctors to curb the growth of cancer cells in parts of the body where surgery might be impractical.

Now there are over a thousand radioisotopes to choose from, man - made radioisotopes which are more easily available, less costly, and infinitely versatile.

A radioisotope is simply a form of atom which has more energy in its nucleus than it needs. It usually gets rid of this excess bounce after a while by throwing out part of its own excited nucleus—as radiation.

Artificial 'Breeders'

The big breakthrough came with the development of nuclear reactors which turn out radioisotopes in quantity and variety unimagined a generation ago. All the natural radium ever refined amounts to only about three pounds, but nowadays a single reactor produces "artificial" radioisotopes packing the activity of 100 tons of radium every year. Such diversity and quantity offers a variety of uses.

More than 10,000 manufacturers, processors, hospitals, laboratories and other such operations in this country are now licensed to use radioisotopes. The applications range from prolonging the shelf life of foods to catching criminals.

A radioactive element has often been compared to a sheep with a bell around its neck. Even the tiniest amount of energy it gives off can be detected readily by sensitive, modern instruments. But physically and chemically, the radiant atoms act just like the rest of the herd (the stable atoms of the same element). So you can track a substance through a pipeline buried in the earth or through the human body itself by "tagging" it with a suitable radioisotope.

Needle In Haystack

Good radioactive tracing technique can spot a single atom in 100 billion. That's better than finding a needle in a haystack; it's like locating a specific kernel of corn in 850 boxcar-loads.

The big oil companies, for instance, have found a way to see which sort of lubricating oil will result in the least engine wear. They put radioisotopes of iron into the piston rings of a test car. Then the scientists measure how many "hot" piston ring particles are worn away when Oil Type "A" is used, how many with Oil Type "B", etc. In the old style tests (using a scale and weighing the oil), they had to run an engine for 10 days continuously to get a reliable reading. Using radioisotopes and amazingly precise "counters" the results after a few minutes are 50 times as sensitive.

Testing New Detergents

In the same fashion, "tagged" dirt particles test the efficiency of new detergents. Paints and floor waxes get stiffer checks than their manufacturers would have dreamed possible in the 1940's. Tiny sources of contamination in super-clean operations of the missile industry have been spotted and eliminated — with savings measured in the millions annually.

Individual atoms are as unpredictable as people. Put a few million or billion together, however, and they follow certain inflexible laws of nature. For example, half the atoms within any given amount of a radioisotope will always "decay" (give up excess energy) within a specific length of time. This period is called the material's "half life", which may range from a few thousandths of a second to millions of years.

Decay Pattern Predictable

Each radioisotope is so faithful to its own decay pattern that the "signal" it gives off can be used as a nearly perfect standard in automated industrial processes. Place a long-lived radioisotope source on one side of a continuous production line and a good detector on the other, and any variation in the thickness or density of the product will change the strength of the signal. This technique is used almost universally to measure the amount of tobacco being inserted in cigarettes . . . and to gauge the thickness of paper, rubber, plastic and metal.

The precise tolerances needed in manufacturing a man-rated space rocket would be virtually impossible to meet without using radioisotopes. When several hundred thousand different components are involved, a reliability of 99.9999% in each one will produce only a 50-50 chance of full success — which obviously isn't good enough. And a hair's breadth (literally, a few hundred-thousandths of an inch) may be too sloppy a measuring stick to insure reliability. Happily, radioisotopes enable measurements in **millionths** of an inch.

New Chemical Techniques

The development of radiochemistry has introduced revolutionary new techniques of chemical analysis. By using certain isotope radiation sources or small reactors, it's possible to "activate" the elements in any sample (that is, turn them into radioisotopes themselves). Since each radioisotope has its own recognizable radiation pattern, it's possible to find minute traces of material which might otherwise have been overlooked.

Wipe a swatch of cotton across the hand of a police suspect, and an Atomic Age criminologist can tell more than whether or not he has fired a gun recently. He can say how many bullets were fired and what brand of ammunition was used. He can also use these "tools" to figure out where the weed for a batch of narcotics was grown . . . or to identify a person's recent whereabouts from the dirt under his fingernails and in the cuffs of his trousers.

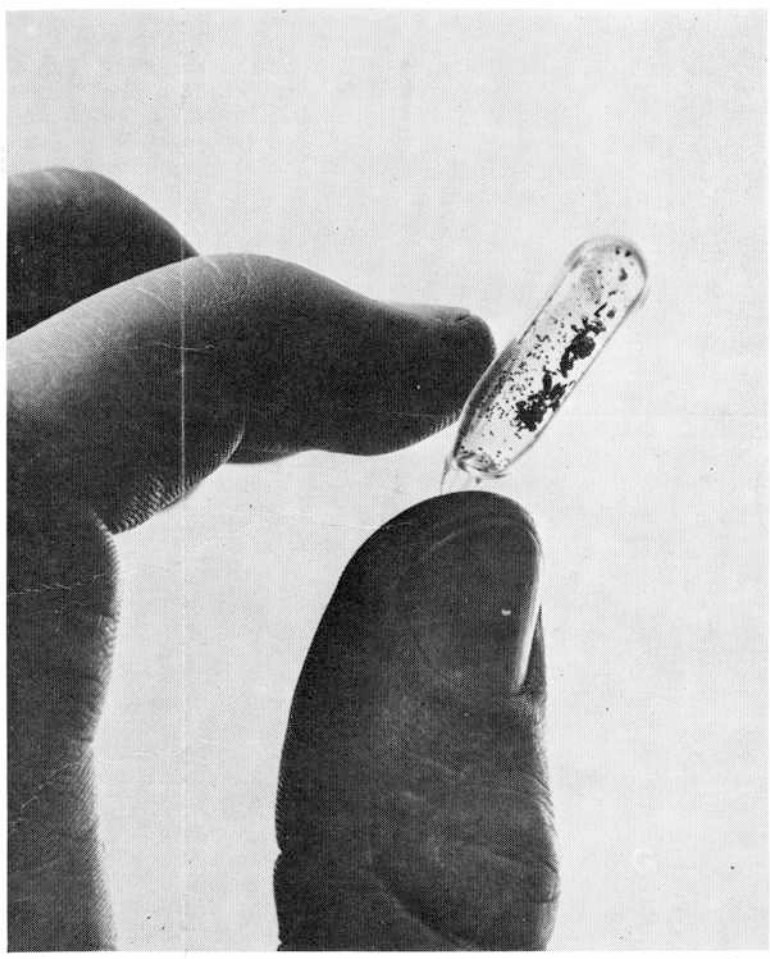
Taming Nuclear Energy

Most radioactive materials are used in a fairly passive way. They sit there and wait to be detected, so to speak. More recently the trend is toward using the radiation itself in a more active way—just as man learned to tame and use fire.

The particles given off by radioisotopes warm up the material around them as they slow down. This heat may be used directly, to keep vital engine components from freezing during Arctic operations or, in a less direct fashion, government officials believe that radioisotope heat could also generate steam to drive small submarines . . . or propel deep space probes by gradually converting liquid hydrogen into a gas and expelling it through a rocket nozzle. But the most extensive application so far has been in so called "atomic batteries", units which generate heat and transform it directly into electricity. The amount of electricity is generally small, but suited to special purposes. Using radioisotopes with half-lives of a few months to almost a century, these "atomic batteries" are busy today — in space, powering a navigational satellite; on land, at remote weather stations; and at the bottom of the sea, in sonar beacons. Coupled with transistorized equipment, the midget generators can make even a few watts go a long way; but the AEC has already ordered more powerful portable units, each generating hundreds of watts.

Radiation is related to heat in

Continued on Page 4



IF THE 1/500 OF AN OUNCE OF IODINE in this vial were made radioactive, it would be enough for over 46,000 different shipments to doctors, laboratories and industries which use radioisotopes to help better our lives.

BOWLERS LENNIE ESKRIDGE AND LOUISE WARMLEY copped honors recently in the alleys at Midtown. For helping her team to first place, Lennie took the big trophy, rolling with the Bluebirds in the 10 O'clock Friday Morning League. Louise's trophies came for her rolling with the "3 Jays." Her large trophy was taken for a 681 handicap series, and a rollicking 264 handicap game.

9-Team Hoss-Shoe League Commences

The Y-12 - ORNL Horseshoe Pitching League got under way Thursday on the Jackson Square courts in Oak Ridge with nine teams.

Two matches were played and found the E. F. Harness-R. S. Durham team taking the measure of Harrison Raper-Joe Tinley by 8-1. Frank Zupan-Avery Kendig rolled by the Sam Gallman-Charlie Clark combine 6-3.

Matches between the Bob Leonard-Tip Gray and Loyd Wyatt-Bob Lucke team was postponed as was the scheduled encuonter between the W. S. Helms-E. B. Wagner team versus Ed Hutto-Bill Tillery.

Since there are nine teams, the M. H. Barger-Jesse Luckett duo was not scheduled.

League standings follow:

Team	Won	Lost
Harness-Durham	8	1
Zupan-Kendig	6	3
Gallman-Clark	3	6
Raper-Tinley	1	8
Wyatt-Lucke	0	0
Hutto-Tillery	0	0
Helms-Wakner	0	0
Leonard-Gray	0	0
Barger-Luckett	0	0

Recreation calendar

Monday, July 4

HOLIDAY FOR Y-12ERS.

Tuesday, July 5

SOFTBALL LEAGUE, beginning 6 p.m. Pinewood Park. Bio vs. Sluggers; Fireguards vs. X-10 Mets; Clowns vs. Isotopes-Reactor.

PHYSICAL FITNESS: 7:30 p.m. Oak Ridge High School Gymnasium.

Thursday, July 7

SOFTBALL LEAGUE, beginning 6 p.m. Pinewood Park Big Shops vs. Bat Boys; Naughts vs. Peanuts; X-10 Mets vs. Falcons.

PHYSICAL FITNESS: 7:30 p.m. Oak Ridge High School Gymnasium.

HORSESHOE LEAGUE: 7 p.m. City Courts, Jackson Square.

Sunday, July 10

SKEET TOURNAMENT, 1 p.m. Oak Ridge Sportsman's Association Range.

Can the classified talk!

Tee-Off Time Application For Springbrook (Niota) Tournament

Saturday, July 23

Foursome

_____, Leader

_____

_____

_____

Leader's office phone _____

Home phone _____

Tee-Off Time Preferred _____

Fill out completely and return to the Recreation Office, Building 9704-2. Deadline for entering is 4:30 p.m. Wednesday, July 20. Tee-off times will be drawn the next day, Thursday, July 21, at 8:30 a.m.

Dorr Takes 3rd Golf Tournament

Carl Dorr took his third golf tournament (in as many tilts Y-12ers have played this summer) last weekend at Melton Hill. Dorr fired a two-over-par 74, to win among the 115 golfers playing in the rain on the Clinton course. Bob Roe came in second with a 79 scratch, followed by L. W. Miller, 80, and Joe Pryson, 81.

Handicap winners in the first division were H. D. Cofer, 70; J. D. Collins, 72; Newt Hamby, 73; A. L. Sawyer and Ernie Collins, each with 74. Red Leach took most pars, capping 10. Taking nine were five Y-12ers . . . J. J. Sewell, Bob Hagood, Jim Grubb, Gene Huskisson and H. B. Presley.

Second Division

C. R. Ferguson and Walt Sherrod tied for honors in the second flight, each with 82 scratch. They were followed by E. P. Braden and Bill Mattingly, each with 84. Handicap lows went to Bruce Hogg, 70; Frank Tiller, E. N. Rogers, each with 71; J. D. Shelton, 73.

Most pars were taken by R. P. Wallace, who took eight . . . Jim George and R. J. Mustin and C. R. McGinnis, each had six.

Third Division

Glen Lundquist capped honors in the third flight, firing an 88 scratch, followed by Jay Fielden, 91; C. C. Carter, 95; R. S. McGinnis and Hugh Henderson, each with 97.

Handicap lows saw C. C. Ridings take a 75; Jim Batch, 76; Tom Verner and Bill Akers, each fire 80.

W. K. Forrester won four pars on the lake-side course . . . E. S. Jackson, three.

Fourth Division

Jim Morehead played a 93 scratch for fourth flight lows; followed by J. S. Oakwood and E. V. Hawk, each with 95; Hiram Crutchfield, 103. Handicap lows went to Burl E. Henry, 72; Mont Kendrick, 73; Bobby L. Carter, 76 and H. S. Pawley, 78.

Jerry Cadden and J. B. Brannum each took four pars.

July's competition is announced at the Springbrbok Country Club, Niota, set for July 23. Application appears below in this issue of the Bulletin.

Jack Case Leads Latest Skeet Shoot

Y-12's Jack Case took the June 12 Skeet Tournament, firing a 44 scratch score, 48.723 handicap total. He was followed by H. Wills, ORNL, 48.556; and Bill Brundage, ORNL, 48.358.

The next Skeet firing will be held Sunday, July 10, at 1 p.m. at the Oak Ridge Sportsman's Association range.

Any UCC employee interested in shotgun shooting is invited to participate. Equipment and instructions are available. More information, contact Charlie Asmanes, extension 3-7296, or Fred Welfare, 3-5962.

June 12 Skeet Results:

Firer	Scratch	H'Cap
Charlie Asmanes, Y-12	40	48.232
Jack Case, Y-12	44	48.723
R. A. Allstun, Y-12	44	47.729
Harry Wills, ORNL	44	48.556
Bill Brundage, ORNL	46	48.358
F. S. Patton, Y-12	43	46.189
Carl Brewster, Y-12	37	47.601
M. C. Wiest, Y-12	36	46.859

MISLEADING FIGURE

A U.S. Department of Labor report says that 18 of every 100 households in this country are headed by a woman. There's a lot more than that if the truth ever gets out!

G. F. McPHERSON, FIREGUARDS, takes a healthy swing at the old soft ball in his team's match last week against the Health Physics aggregation from ORNL.

Isotopes Reactor Team Dominates Softball League As Action Boils

Last week Softball League action got under way on Monday at 6 p.m. with the K-25 Mets mauling Bio by the score 26-6. The Mets salted the game away in the third inning by scoring 13 big runs on twelve hits and holding Bio scoreless until the fourth inning. For the Mets Wes Peters had two circuit clouts while Bob Henderson and George Plunk had one each.

The 7:15 encounter found ORNL's Clowns and Ecobums in a "hair raiser" with the Ecobums holding off a seventh inning Clown rally and winning 10-9. Round trip clouters were Ernie Neal and George Van Dyne with one each for the Ecobums while L. C. Manley did likewise for the Clowns.

Monday's final encounter at 8:30 p.m. found the K-25 Sports taking Y-12 Big Shops to the cleaners to the tune of 22-16. Ray Wilson, Sports' Catcher, doubled, tripled and homered while teammates Bob Seifried, Bob New and Sam Duncan had one round-tripper each.

Fireguards Lose

Tuesday's 6 p.m. affair started with the Fireguards and Health Physics who emerged astoundingly victorious 27-7. Health Physics scored, 5, 8 and 6 runs in the first, second and sixth innings as well as scoring in each of the others. Big guns for Health Physics were David Mason with three homers, Bob Stone had two, and John Poston had one. Big John Peters had the lone homer for the Fireguards.

Perhaps the most exciting game of the evening was the second that saw Y-12's Braves take the Red Devils 15 to 8. The Red Devils scored three in the seventh but were cut short by the tight defensive play of the Braves, which was evident throughout the game. Manager Rick Hull, Braves, had a perfect evening at bat, getting four for four . . . and played center field in a typical "Mantle style" defense. Other big guns for the Braves were Jim Shoemaker, John Evans, and Ray Riggs, who homered while Dave Smith had two, Charlie Dunn and Dick Bowman had one apiece for the Red Devils.

Big Leaders Win

Tuesday's play ended with the league leading undefeated Isotope-Reactors shackling the Bat Boys by a score of 25-7. Butch Armistead hit a round tripper for the Reactors and got four for five while Gene Moore tripled and had three for four. For the Bat Boys lanky Jim Turner had a triple and George Reece homered. The Reactors' constant hitting barrage and loose defensive play of the Bat Boys made the difference.

Thursday's play began with the Eagles and X-10 Mets squaring off at 6 p.m. The Eagles doubled the score as victors by 16-8. Big Jim Thompson, Bill Sise, Jim Froula, and Hugh Richards hit four-baggers for the Eagles while Bob Steffy clouted a round-tripper for the X-10 Mets. The Eagles scored in every inning save the third, while the Mets could only count in four.

The second game at 7:15 p.m. found the Naughts overwhelming the Sluggers 15-4. Al Longest and J. W. Jones each had a circuit clout for the Naughts while Curtis Parker duplicated for the Sluggers. The Naughts thus got into the win column leaving the Fireguards as sole owners of the bottom spot.

The Thursday finale at 8:30 saw the Peanuts stage a seventh inning nine run rally but bow to the Falcons who already had 18 deposited on the scoreboard. In the 18-14 Falcon victory, Benny Trent, Charlie Myers, Bob Rose, and Doyle England hit round-trippers. The Peanuts' Frank Davis hit two and Joe Kidd had one.

League standings follow:

Team	Won	Lost
Isotopes-Reactor, ORNL	7	0
Braves, Y-12	6	1
Health Physics, ORNL	6	1
K-25 Mets	6	1
Red Devils, ORNL	5	1
Bat Boys, Y-12	5	2
Eagles, Y-12	5	2
K-25 Sports	4	3
X-10 Mets	2	4
Clowns, ORNL	2	4
Bio, ORNL	2	4
Sluggers, ORNL	2	5
Falcons, Y-12	2	5
Naughts, ORNL	1	5
Ecobums, ORNL	1	6
Peanuts, ORNL	1	6
Big Shops, Y-12	1	6
Fireguards, -12	0	6

Golden Gate Is Not Golden — Work Is!

San Francisco's Golden Gate Bridge is not golden . . . it's orange. To keep it orange, 40 painters work continuously on a job that will last as long as the bridge. Painting the same bridge endlessly might seem the height of tedium, but not to the boss of the painting crew, who said:

"Why, this is the Golden Gate Bridge—not just any bridge."

With such pride, a person can do better at anything, whether it's sweeping floors or waiting on tables or keeping books. Then even the dullest job is not gray—it's golden!

Safety pays big dividends.

UNION CARBIDE CORPORATION
NUCLEAR DIVISION

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BULK RATE
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Permit No. 71

Along with the country's birthday this week, several Y-12ers observe important milestones with Union Carbide Corporation. Congratulations.

20 YEARS

Ralph Ledford, Area Five Maintenance, July 1.

Halbert E. Argo, Process Maintenance, July 1.

Burrell A. Davis, Dispatching Department, July 2.

15 YEARS

Iva H. Jones, Arc Melting, July 1.

Ray N. Whitehorn, Radiation Safety, July 2.

Amos R. Shamblin, Research Services, July 2.

King C. Burgess, Gage Certification Laboratory, July 2.

John B. Graham, General Field Shops, July 2.

Thomas H. Jimmerson, Electrical Department, July 2.

Joseph H. Stewart Jr., Production Analysis, July 2.

Hugert C. Morgan, Metallurgical Development, July 2.

J. R. Rutter, Cashier and Travel, July 2.

Adrian B. Currens, Electrical Department, July 2.

Thurston B. Caldwell, Dispatching Department, July 3.

Charles E. Murray, Buildings, Grounds and Maintenance Shops, July 3.

Edward Owings, SS Control Department, July 3.

Leonard Gibson, General Machine Shop, July 3.

Jack R. Day, Ceramics and Plastics Development, July 3.

Albert L. Foland, Dimensional Inspection, July 3.

George W. Hart, Salvage, July 4.

Ethel M. White, Chemical Services, July 5.

Willie F. Ragsdale, Graphite Shop, July 5.

Fred E. Bean, Process Maintenance, July 5.

10 YEARS

Omer J. Rhea, General Machine Shop, July 2.

Harold H. Clark, Production Assay, July 2.

Maintaining Machinery Bears Responsibility

If it is your job to oil and repair machinery, you have the responsibility to see that necessary precautions are taken so that this equipment or your activity does not bring harm to anyone. Lock your equipment thoroughly, post working signs and rope off areas as necessary when removing guards from machines, escalators, elevators or pieces of equipment to make repairs. Be sure no one gets hurt because of your failure to warn them properly.

Time was when minding the children didn't mean obeying them.

Pistol Course Is Set For Novices

A basic pistol training school will be conducted by the Oak Ridge Sportsman's Association beginning tomorrow, June 30. Anyone over the age of 16 interested in target pistol shooting is eligible to attend.

A series of six classes will be held at the ORSA fields on June 30, July 7, 14, 21, 28 and August 4.

Gun safety will be emphasized and enforced throughout the course.

The first and second classes will be held at the Club House, and the remaining at the Outdoor Pistol Range. Classes begin at 6:30 p.m. Pistols are available but students must furnish their own .22 calibre standard velocity ammunition.

A $2 fee will be charged non-Oak Ridge Sportsman's Association members . . . no charge, of course, to ORSA members.

The course is especially for beginners, both men and women. No previous experience is necessary. Enrollment, however, will be restricted to 16 students . . . and those of draft age will be given preference.

For reservations, or additional information, contact Jim Brewer, extension 3-3206.

Ride wanted or will join car pool from Karns to Central or West Portal, straight day. K. A. McTeer, plant phone 3-5851, home phone Knoxville 584-4778.

Riders wanted from Burlington section, Knoxville, via Atlantic Avenue and Clinton Highway, to North Portal, straight day. E. L. Henson, plant phone 3-5215, home phone Knoxville 523-0248.

Ride wanted, or car pool member wanted, from Highland View School section, Oak Ridge, to Central or West Portal, straight day. A. R. McConkey, plant phone 3-7392, home phone Oak Ridge 483-7923.

Riders wanted from Hillside, Hunter Circle vicinities, Oak Ridge, to North Portal, straight day. Mike Jamison, plant phone 3-7216, home phone Oak Ridge 482-3359.

Ride wanted, or will join car pool, from Fountain City area, Knoxville, to North or Biology Portal, straight day. Louise Kemp, plant phone 3-7087, home phone Knoxville 689-4745.

Riders wanted from Lake City to any portal. Straight days. Call C. R. Sharp, home phone 3324, plant phone 3-7176.

Ride wanted or will join car pool from Audubon Road, Oak Ridge, to West Portal, straight day. W. C. Smith, plant phone 3-7643, home phone Oak Ridge 483-1554.

J SHIFT OF BETA TWO MACHINE SHOP contributed also to the sterling safety performance through the years, despite the heavy machinery and materials handled. The last lost-time accident occurred in the shop January 12, 1956. Kneeling, from left, are B. Foriest, J. W. Weaver, R. E. Rose, Frank Lively, Cecil Houser, E. L. McGhee, R. A. Wilson, C. W. Huffaker, and W. R. Harvey. Standing are Irene Carmack, A. R. Brown, L. S. Nabors, H. E. Cornell, W H. Foust, R. F. Wilson, E. R. Walls, T. M. Copeland, R. E. Reed, J. O. Brummette, C. R. Anderson, K. O. Goodykoontz, G. P. McGhee, J. A. Lews and R. E. Monger. Absent were J. T. Roberts, J. H. Moore, H. G. Overton, J. D. Goad and R. L. Pass.

6-13068

BETA TWO MACHINE SHOP, heralded for their outstanding safety record, recently passed the 10-year mark without a lost-time injury, marking up a total of approximately 1,411,455 man-hours safely worked. Kneeling from left are C. D. Wells, J. Dick, T. I. Sloan, L. Haney, C. E. Lowe, W. A. Wallace, D. L. Freels and B. McGregor. Standing in the H Shift group are T. E. Collins, C. G. Christiansen, W. T. Calhoun, A. R. Smith, F. A. Tallent, O. H. Harmon, R. H. Wilkerson, L. A. Underdown, W. G. Seymour, J. R. Milligan, E. W. Forbes and L. G. Lankford. Not present for the photograph were E. Maden, O. C. Hutchison, O. A. Holeman, and R. B. Birdwhistell.

Busy Radioisotopes

Continued from Page 2

still another way. Like heat (which engineers call "thermal radiation"), the nuclear radiation from isotopes can start up or speed up chemical reactions. Similar to the way heat from a stove turns a raw egg into an omelet, nuclear radiation can cause some materials which are normally liquids at relatively low temperatures to harden into plastics with marvelous new properties. Familiar to shoppers is the transparent plastic wrapping used to package fruits and similar foodstuffs. The radiation strengthens the plastic and helps it cling to the food's container.

Wood soaked with a liquid plastic and irradiated turns into a durable substance which doesn't need varnish, shellac or lacquer to protect its finish. It doesn't need paint either, because colors can be "baked in".

Like heat, radiation can help to preserve certain foods by eliminating bacteria. It can keep properly packaged seafood or meat fresh for many months without refrigeration. Lighter "doses" can extend refrigerated shelf life or prevent spoilage in tender fruits and vegetables on their way to market. Of course the food itself does not become radioactive. The U.S. Food and Drug Administration has already approved such items as irradiated bacon, potatoes, and several grain products for general consumption.

Safety Record Outstanding

During the nearly twenty years radioactive byproducts have been used, the safety record has been outstanding. Familiarity with the materials and good safety practices as well as Federal and state regulations covering possession and use of these materials will help keep the future record excellent.

More uses for radioisotopes are undoubtedly on the way—especially since a new, privately-owned processing plant will soon be providing more isotopes than ever before. But authorities generally agree that we have barely begun to plumb the possibilities.

Union Carbide's Sterling Forest Laboratory recently announced plans to expand its scope of customers for radioisotopes. In a move prompted by the AEC to discontinue the manufacture of certain radioisotopes, Union Carbide's laboratory will increase the number and types of radioisotopes available.

According to the Atomic Industrial Forum, Inc., the future growth rate in the use of isotopes and radiation could increase as much as 400 or 500 percent per year.

Whether the man in the street realizes it or not, his silent servants — radioisotopes — will soon be working more and better miracles for him than ever before.

Linde Division Plans South Carolina Plant

The Linde Division of Union Carbide Corporation will build a huge plant near Florence, South Carolina. The multi-million dollar gas welding and cutting equipment plant will start production in October with an initial employment of 800. The plant will cover nearly 10 acres of manufacturing facilities under one roof and will employ mostly local workers. A production force of between 1,000 and 1,200 persons is expected by 1972. Carbide officials said that the location of a large Technical Education Center in the area was one of the principal considerations for the firm's decision to locate there. The plant will be located about four miles west of Florence.

DEFENSIVE DRIVING . . . try it.